

FIG. 1

FIG. 2

Low frequency		Horizontal high frequency						
8	16	19	22	26	27	29	34	
16	16	22	24	27	29	34	37	
19	22	26	27	29	34	34	38	
22	22	24	27	29	34	37	40	
22	26	27	29	32	35	40	48	
26	27	29	32	35	40	48	58	
26	27	29	34	38	46	56	69	
27	29	35	38	46	56	69	83	

Vertical high frequency

**FIG. 3**

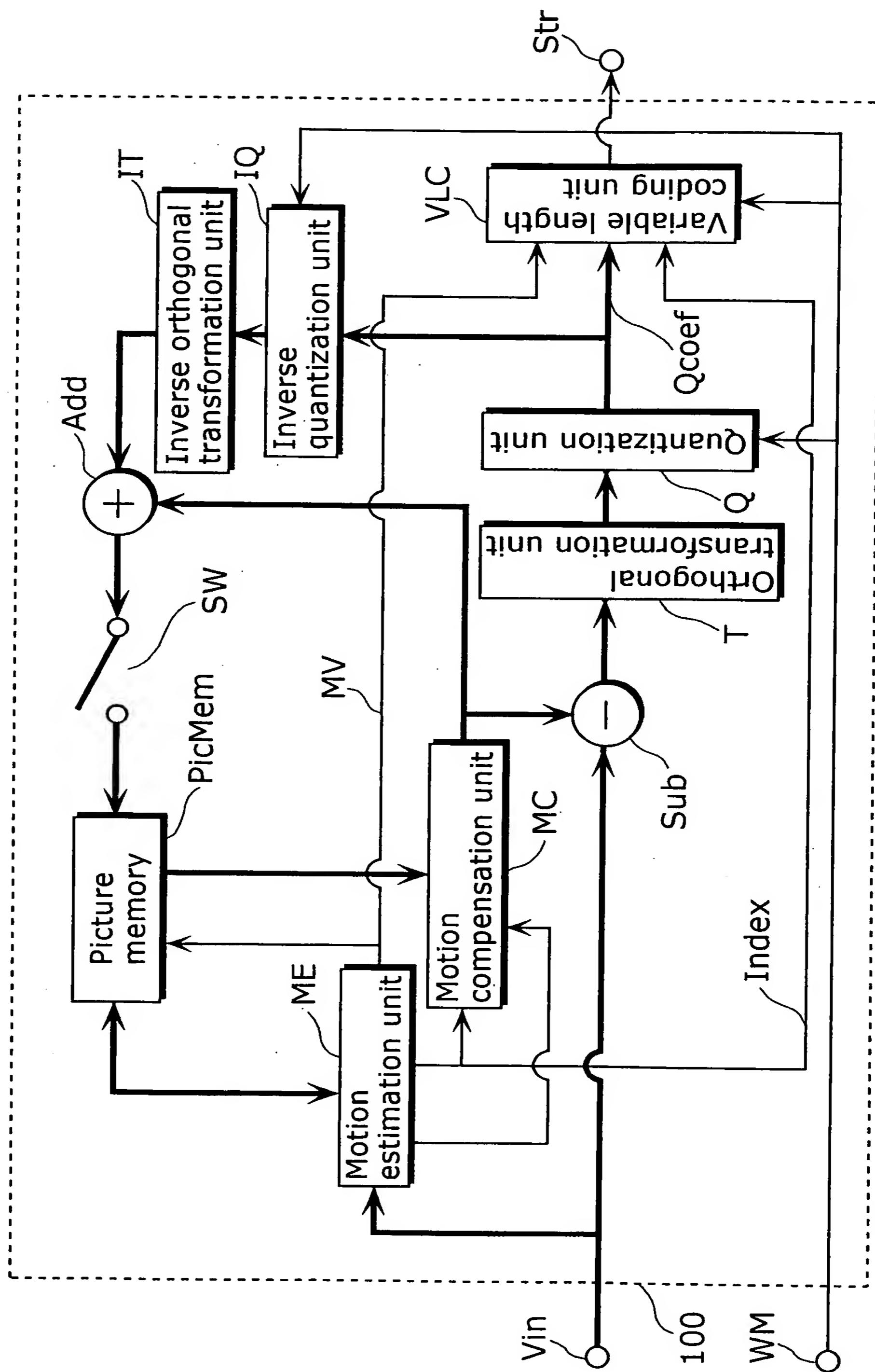
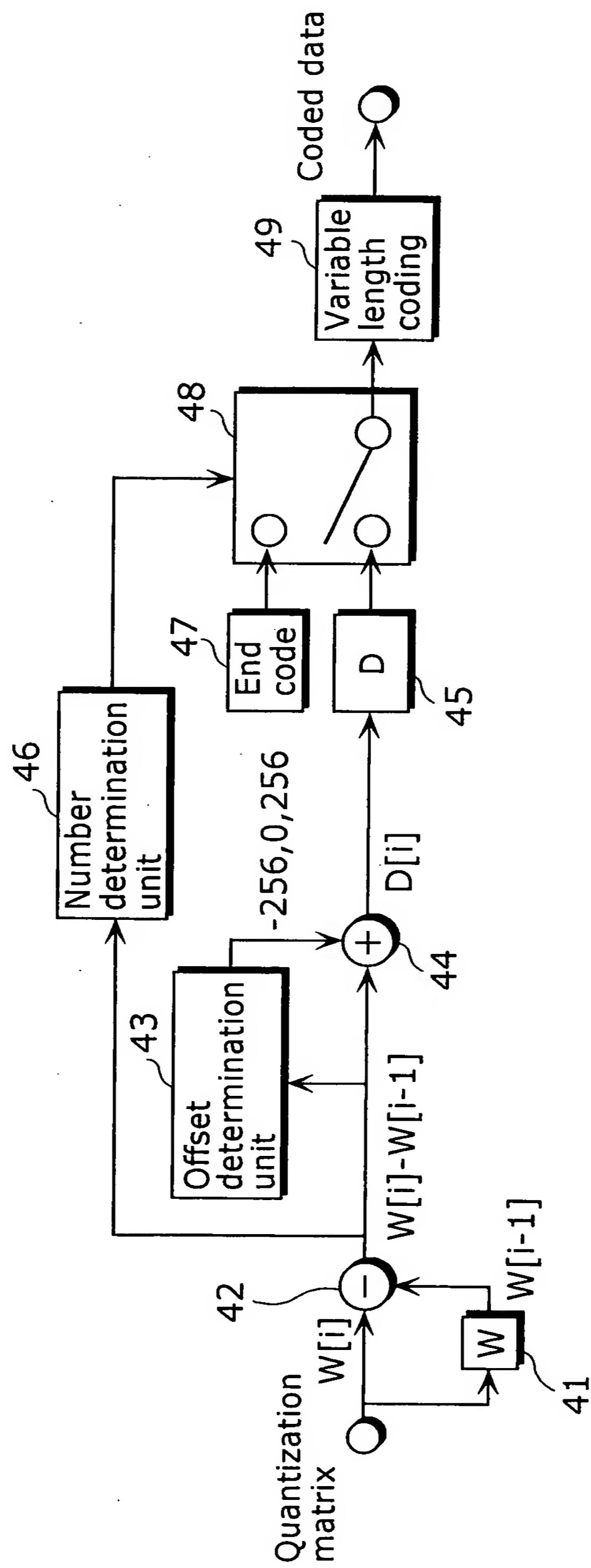


FIG. 4



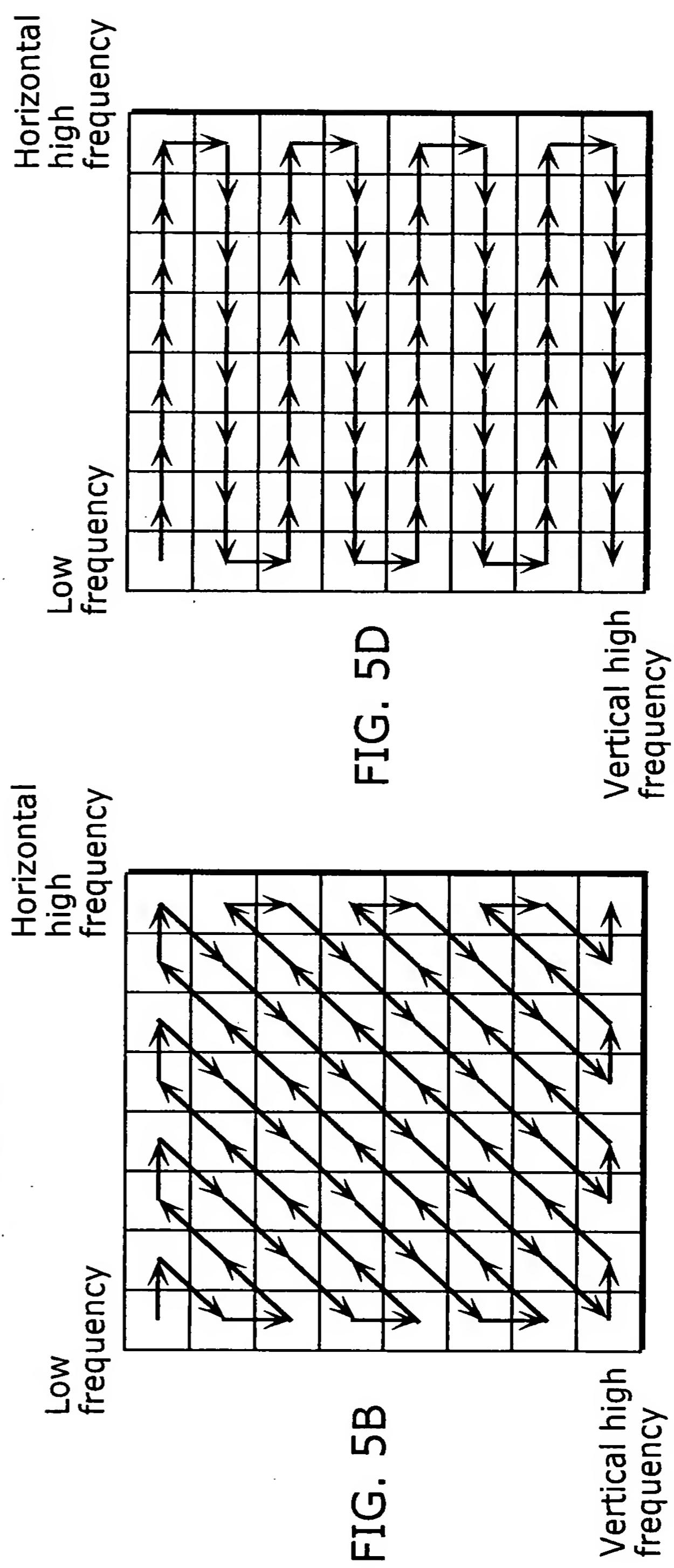
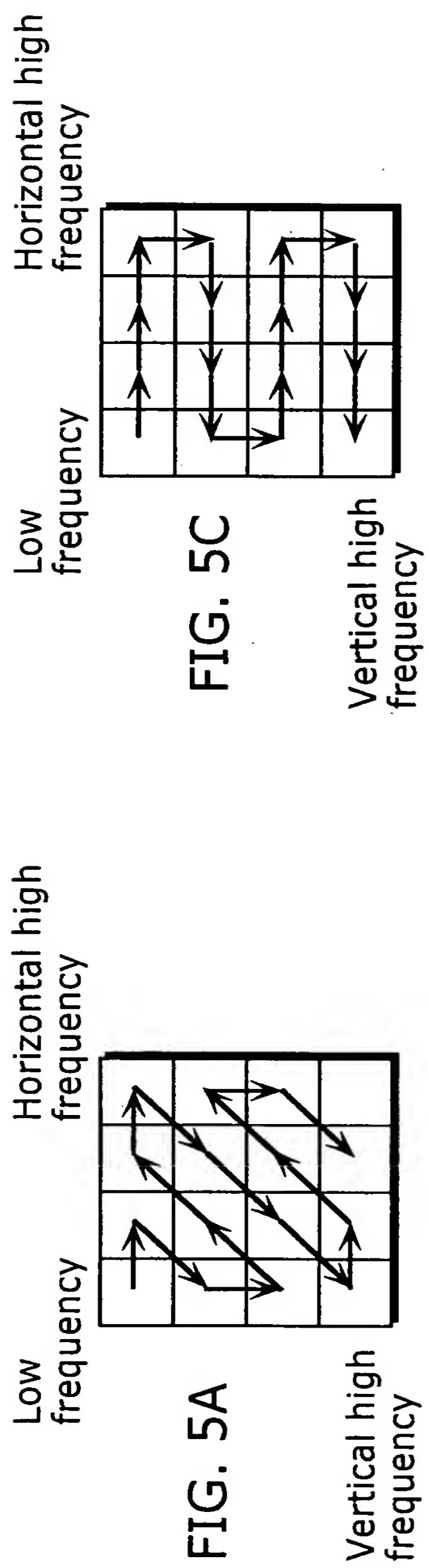


FIG. 6A

$W[0] =$	$W[1] =$	$\dots$
$16$	$18$	$\dots$
$W[2] =$	$W[4] =$	$\dots$
$18$	$20$	$\dots$
$W[3] =$	$\dots$	$\dots$
$21$	$\dots$	$\dots$
$\vdots$	$\vdots$	$\vdots$

FIG. 6C

$W[i]$	$\rightarrow$	$D[i]$	$\rightarrow$	Code
$W[0] = 16$	$\rightarrow$	$D[0] = 8$	$\rightarrow$	$0001000$
$W[1] = 18$	$\rightarrow$	$D[1] = 2$	$\rightarrow$	$00100$
$W[2] = 18$	$\rightarrow$	$D[2] = 0$	$\rightarrow$	$1$
$W[3] = 21$	$\rightarrow$	$D[3] = 3$	$\rightarrow$	$00100$
$W[4] = 20$	$\rightarrow$	$D[4] = -1$	$\rightarrow$	$011$
$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$
$W[30] = 64$	$\rightarrow$	$D[30] = 0$	$\rightarrow$	
$W[31] = 64$	$\rightarrow$	$D[31] = 0$	$\rightarrow$	
$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\rightarrow$ End code

FIG. 6B

$D[0] =$	$D[1] =$	$\dots$
$8$	$2$	$\dots$
$D[2] =$	$D[4] =$	$\dots$
$0$	$-1$	$\dots$
$D[3] =$	$3$	$\dots$
$\vdots$	$\vdots$	$\vdots$

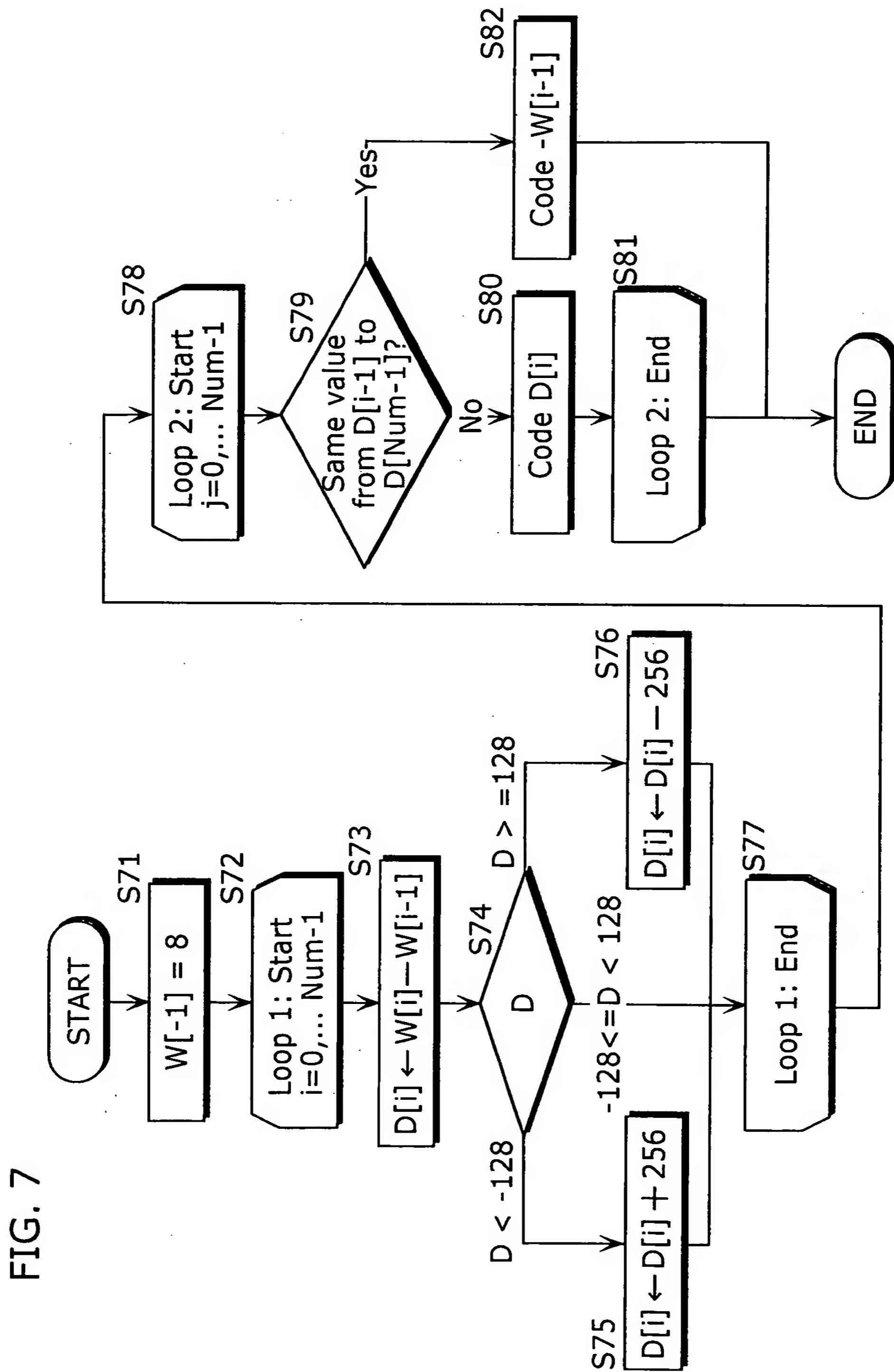


FIG. 7

FIG. 8A

code	value
1	1
010	2
011	3
00100	4
00101	5
00110	6
00111	7

$000 \dots 001 X_0 X_1 X_2 \dots X_{N-1}$   
N zeros

Value =  $2^N + X_0 X_1 X_2 \dots X_{N-1}$

if (N==0)  
value = K  
else

$value = K + (-1)^{X_{N-1}} \cdot (2^{N-1} + X_0 X_1 X_2 \dots X_{N-2})$

FIG. 8B

code	value
1	K
010	K+1
011	K-1
00100	K+2
00101	K-2
00110	K+3
00111	K-3

$000 \dots 001 X_0 X_1 X_2 \dots X_{N-1}$   
N zeros

if (N==0)  
value = K  
else

$value = K + (-1)^{X_{N-1}} \cdot (2^{N-1} + X_0 X_1 X_2 \dots X_{N-2})$

FIG. 8C

code	value
1	0
010	1
011	-1
00100	2
00101	-2
00110	3
00111	-3

$000 \dots 001 X_0 X_1 X_2 \dots X_{N-1}$   
N zeros

if (N==0)  
value = 0  
else

$value = (-1)^{X_{N-1}} \cdot (2^{N-1} + X_0 X_1 X_2 \dots X_{N-2})$

FIG. 9A

W <sub>00</sub>	W <sub>01</sub>	W <sub>02</sub>	W <sub>03</sub>	W <sub>04</sub>	W <sub>05</sub>	W <sub>06</sub>	W <sub>07</sub>
W <sub>10</sub>	W <sub>11</sub>	W <sub>12</sub>	W <sub>13</sub>	W <sub>14</sub>	W <sub>15</sub>	W <sub>16</sub>	W <sub>17</sub>
W <sub>20</sub>	W <sub>21</sub>	W <sub>22</sub>	W <sub>23</sub>	W <sub>24</sub>	W <sub>25</sub>	W <sub>26</sub>	W <sub>27</sub>
W <sub>30</sub>	W <sub>31</sub>	W <sub>32</sub>	W <sub>33</sub>	W <sub>34</sub>	W <sub>35</sub>	W <sub>36</sub>	W <sub>37</sub>
W <sub>40</sub>	W <sub>41</sub>	W <sub>42</sub>	W <sub>43</sub>	W <sub>44</sub>	W <sub>45</sub>	W <sub>46</sub>	W <sub>47</sub>
W <sub>50</sub>	W <sub>51</sub>	W <sub>52</sub>	W <sub>53</sub>	W <sub>54</sub>	W <sub>55</sub>	W <sub>56</sub>	W <sub>57</sub>
W <sub>60</sub>	W <sub>61</sub>	W <sub>62</sub>	W <sub>63</sub>	W <sub>64</sub>	W <sub>65</sub>	W <sub>66</sub>	W <sub>67</sub>
W <sub>70</sub>	W <sub>71</sub>	W <sub>72</sub>	W <sub>73</sub>	W <sub>74</sub>	W <sub>75</sub>	W <sub>76</sub>	W <sub>77</sub>

FIG. 9B

Header	Weighting Matrix							
	W <sub>00</sub>	W <sub>01</sub>	W <sub>02</sub>	W <sub>03</sub>	W <sub>04</sub>	W <sub>05</sub>	W <sub>06</sub>	W <sub>07</sub>

FIG. 9C

Header	Weighting Matrix							
	W <sub>00</sub>	W <sub>01</sub>	W <sub>02</sub>	W <sub>03</sub>	W <sub>04</sub>	W <sub>05</sub>	W <sub>06</sub>	W <sub>07</sub>

FIG. 10.  $V_{out}$

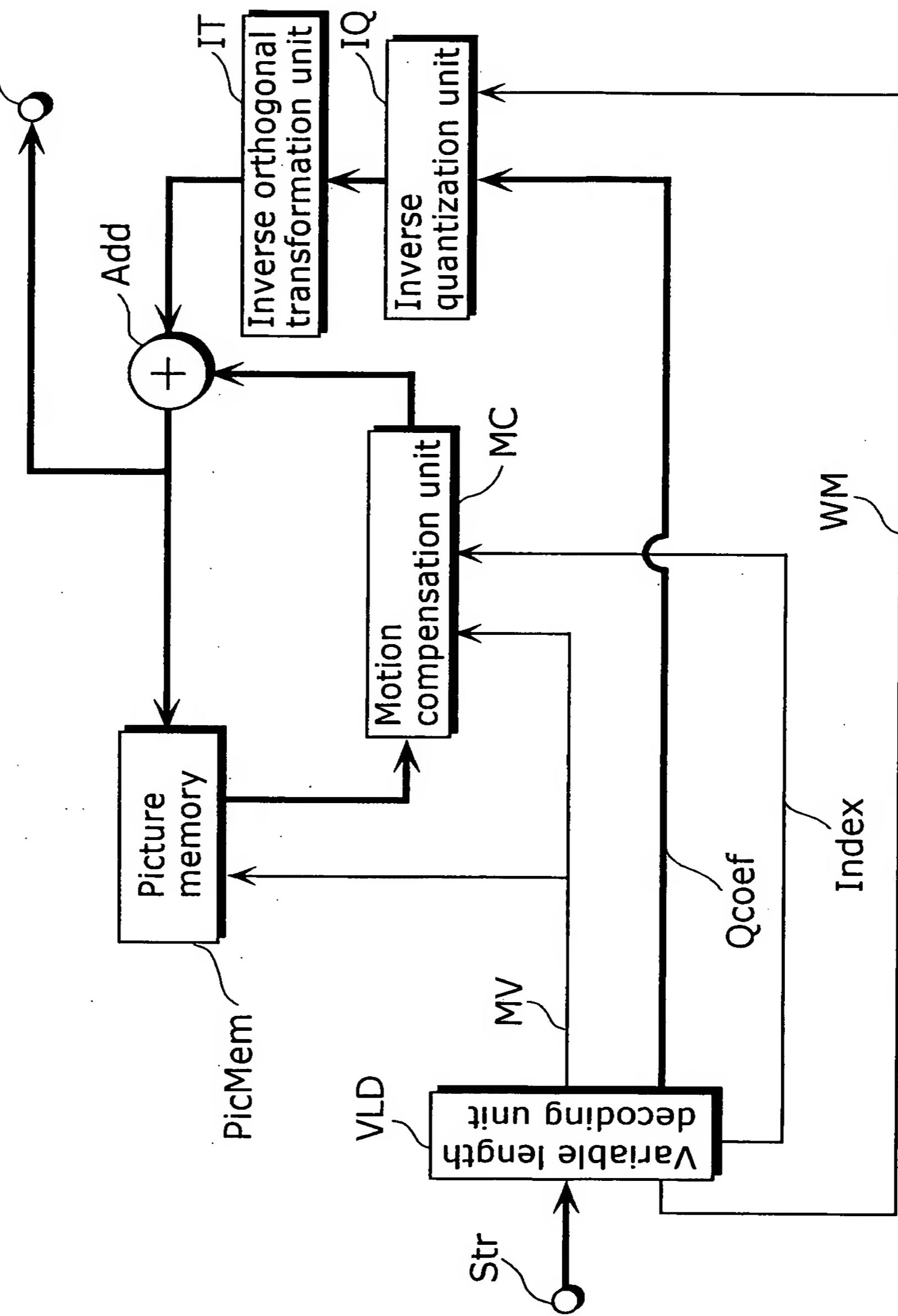


FIG. 11

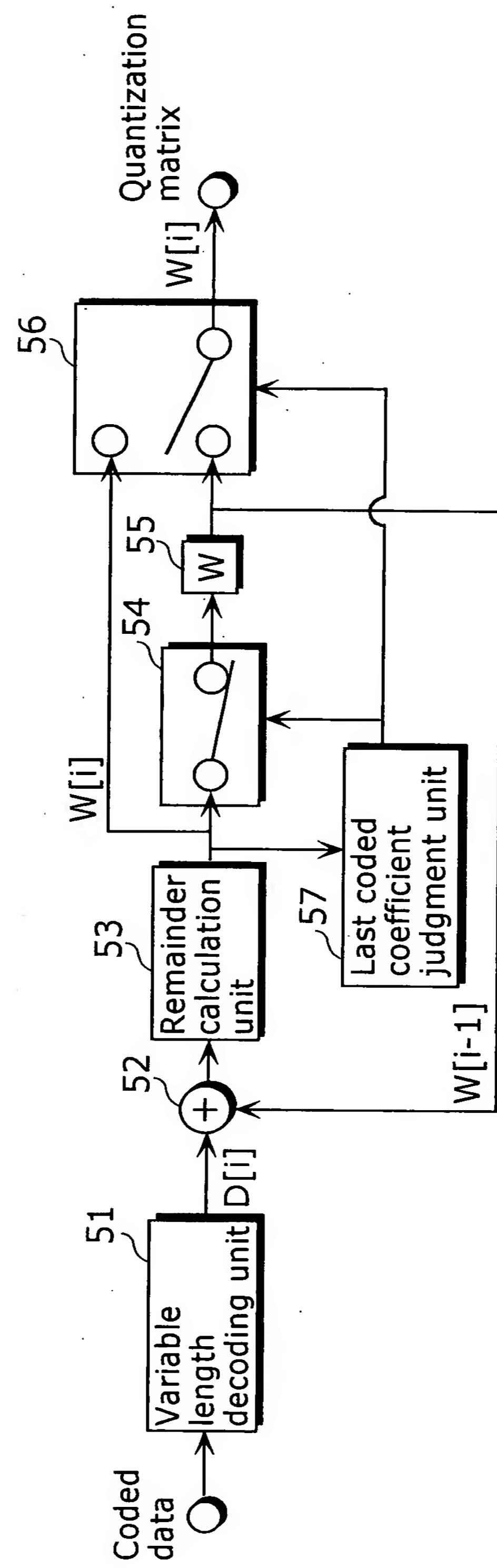


FIG. 12

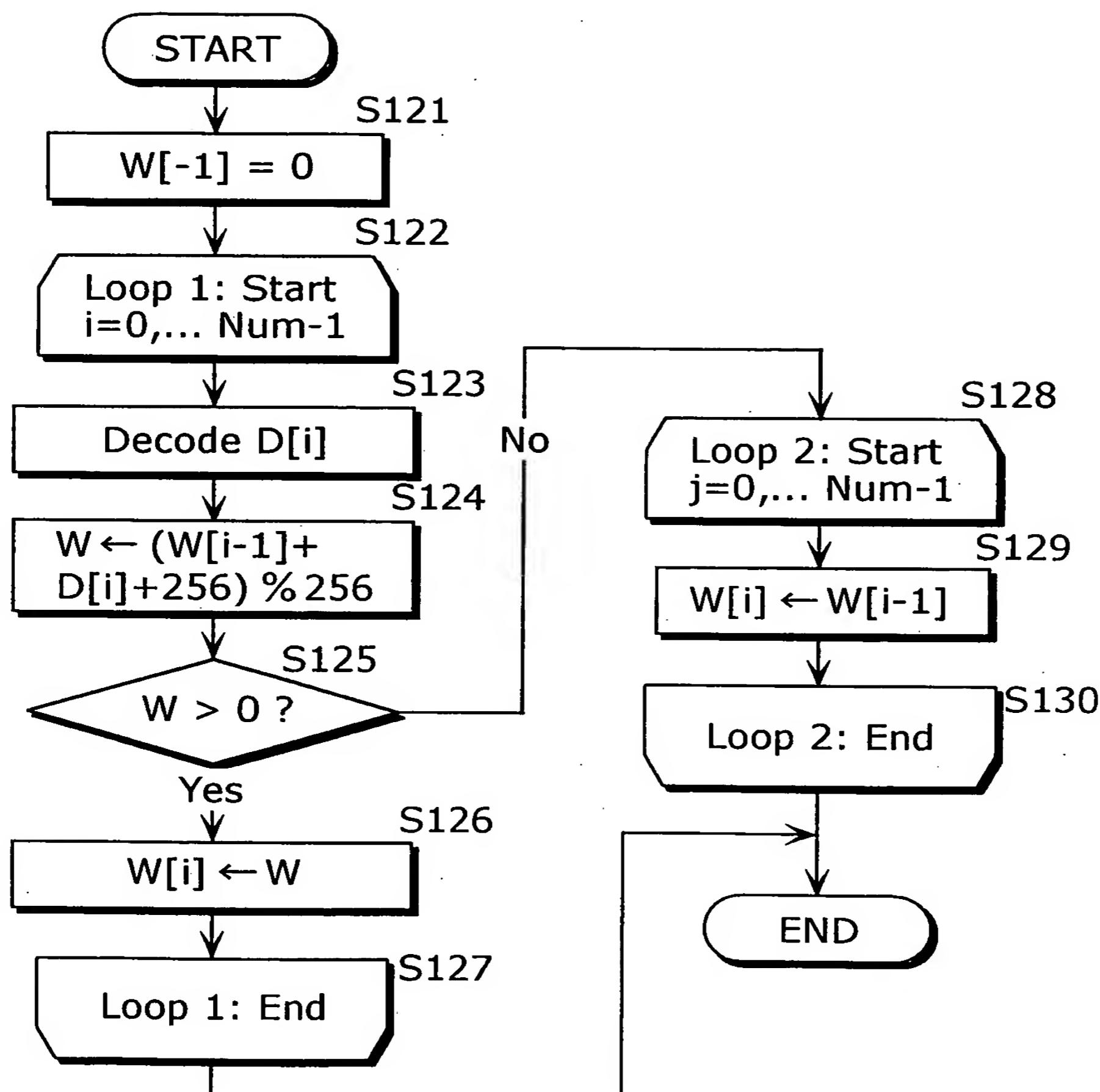


FIG. 13A

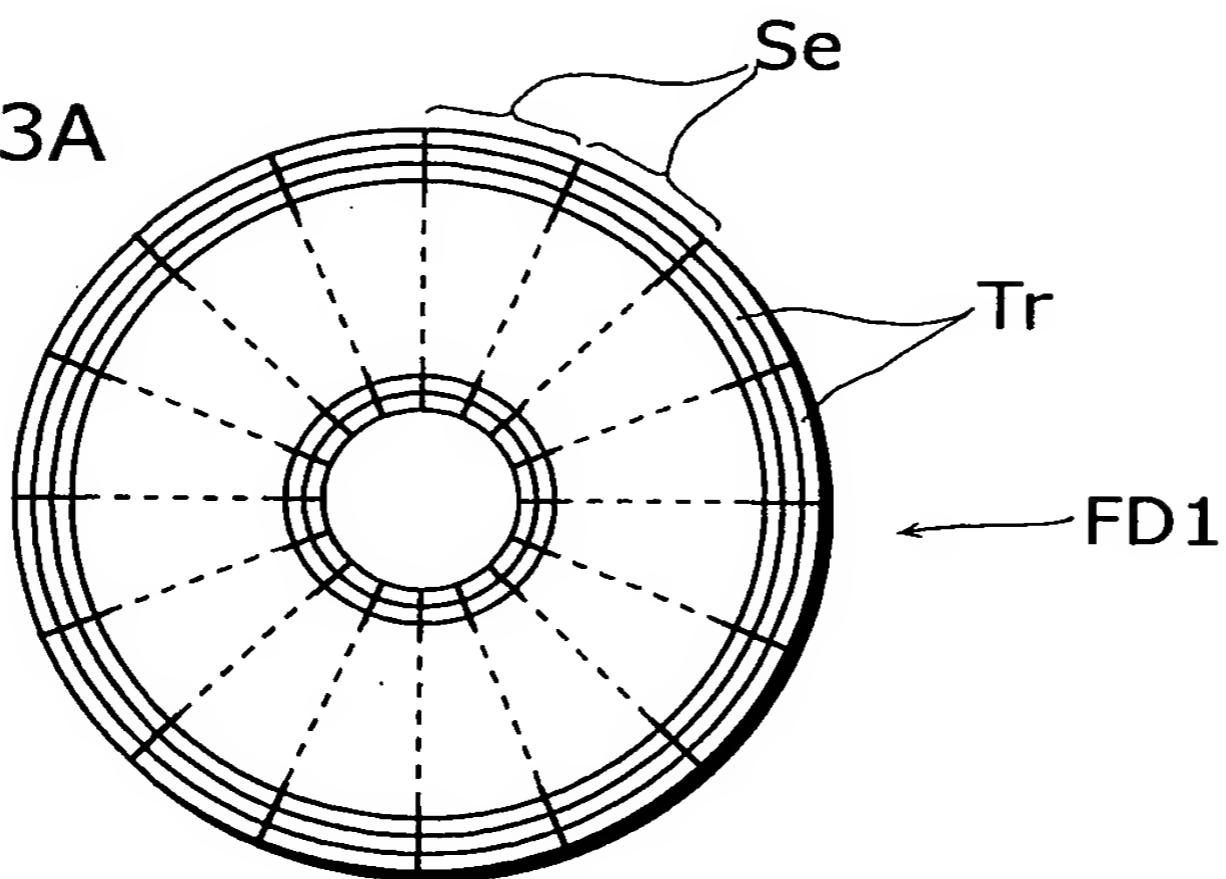


FIG. 13B

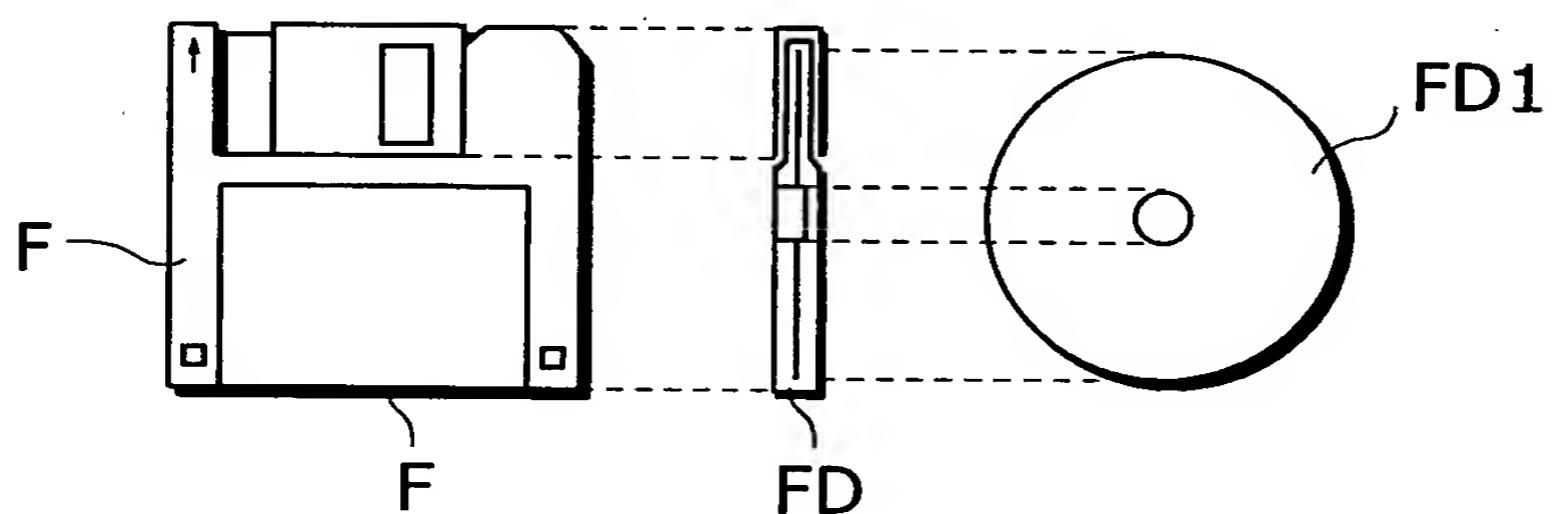
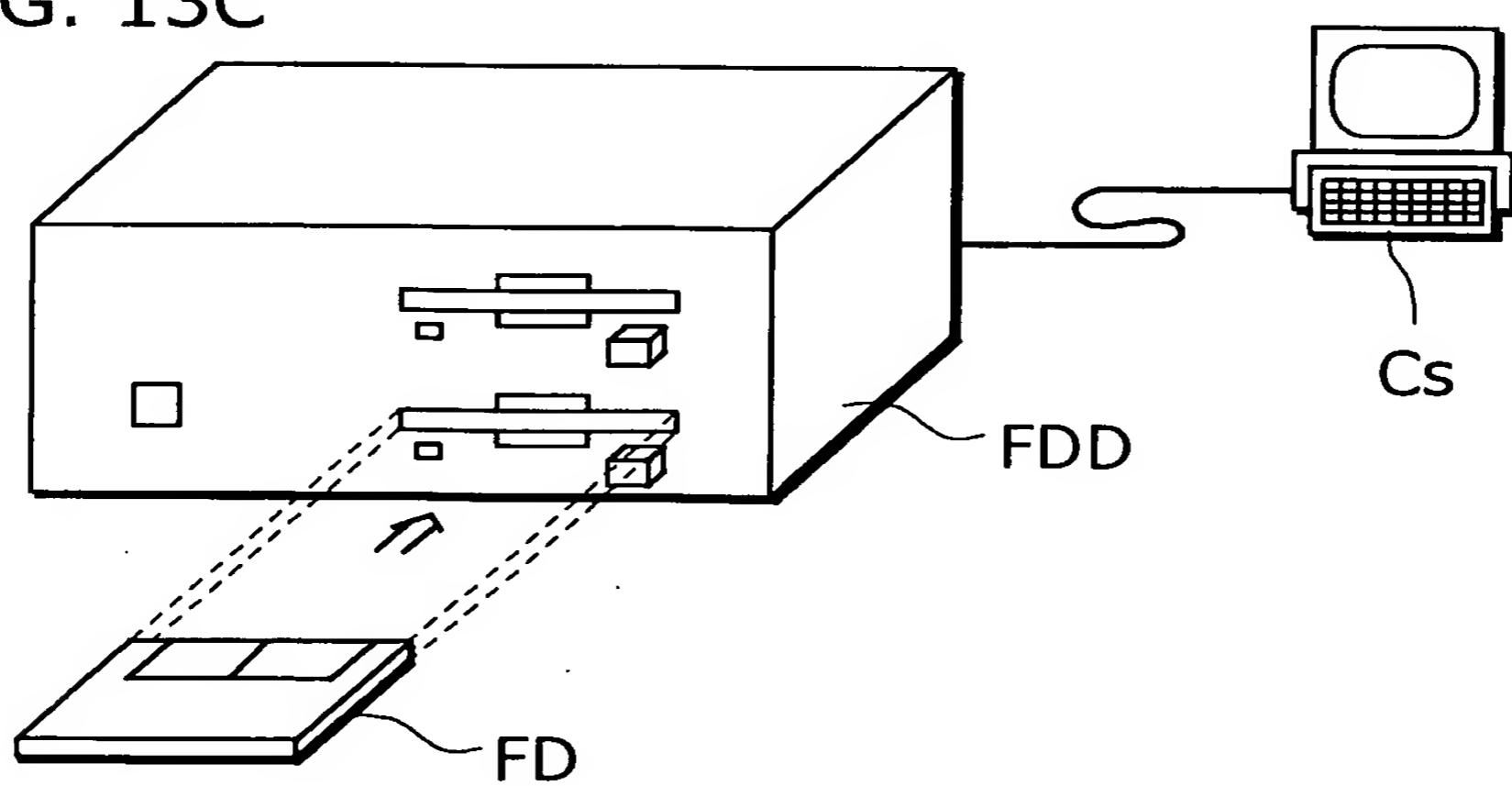


FIG. 13C



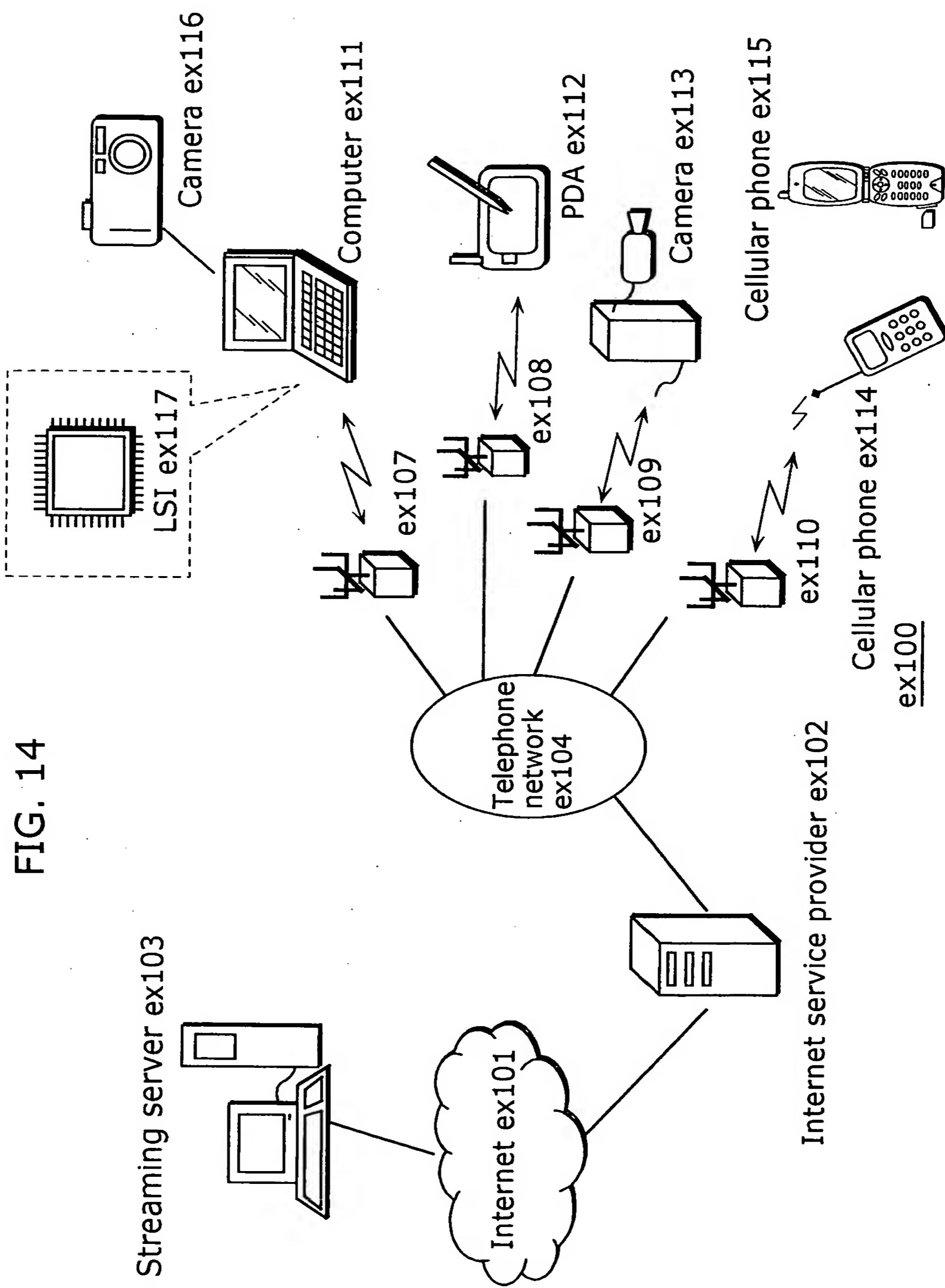


FIG. 15

